

CLAIM AMENDMENTS

1-14 (canceled)

15. (currently amended) A method of producing a fluxing agent that can be used in production of steel, preferably stainless steel, wherein as a raw material for the production of said fluxing agent is used a hydroxide sludge resulting from neutralisation of metal-contaminated pickling liquid from a pickling step for a steel, said hydroxide sludge containing at least one fluoride-containing compound, the method comprising:

heating said hydroxide sludge to a temperature ~~of at least~~ from 1000 °C to 1300 °C,

allowing the hydroxide sludge to cool to ambient temperature, and
crushing the cooled hydroxide sludge.

16-19 (canceled)

20. (previously presented) A method according to claim 15, wherein said hydroxide sludge is taken from a landfill.

21. (withdrawn—currently amended) A fluxing agent that can be used in production of steel, preferably stainless steel, wherein it is produced by a method using a fluxing agent that can be used in production of steel, preferably stainless steel, wherein as a raw material for the production of said fluxing agent is used a hydroxide sludge resulting from neutralisation of metal-contaminated pickling liquid from a pickling step for a steel, said hydroxide sludge containing at least one fluoride-containing compound, and said ~~hydroxide sludge is calcined~~ fluxing agent is produced by a method comprising:

heating said hydroxide sludge to a temperature from 1000 °C to 1300 °C,
allowing the hydroxide sludge to cool to ambient temperature, and
crushing the cooled hydroxide sludge.

22. (withdrawn) A fluxing agent according to claim 21, wherein it contains 20-80 % by weight, preferably 40-65 % by weight, of CaF₂.

23. (withdrawn) A fluxing agent according to claim 21, wherein it contains residual oxides originating from metals in the metal-contaminated pickling liquid.

24. (withdrawn) A fluxing agent according to claim 21, wherein it contains (in % by weight):

20-30 Fe_2O_3

4-10 Cr_2O_3

1-4 NiO

8-12 CaO

1-3 SiO_2

0.1-15 CaSO_4

0.2-0.5 MnO

0.4-0.6 MgO

max 0.02 C

25. (withdrawn—currently amended) A method in connection with steel production, preferably stainless steel, comprising production of a steel heat and decarburization of the steel heat, whereby a slag is formed on top of said steel heat, wherein a fluxing agent is added to said slag, said fluxing agent comprising a hydroxide sludge resulting from neutralisation of metal-contaminated pickling liquid from a pickling step for a steel and containing at least one fluoride-containing compound, and said ~~hydroxide sludge is calcined~~ fluxing agent is produced by a method comprising:

heating said hydroxide sludge to a temperature from 1000 °C to 1300 °C,

allowing the hydroxide sludge to cool to ambient temperature, and

crushing the cooled hydroxide sludge.

26. (withdrawn) A method in connection with steel production according to claim 25, wherein said fluxing agent is added to the slag in an amount that partly or totally corresponds to the requirement of CaF_2 , preferably in an amount of 30-70%, and suitably about 50%, in order to achieve a desired fluxing effect.

27. (withdrawn) A method in connection with steel production according to claim 26, wherein the decarburization is followed by a reduction step in which at least a part of

the metal content in the fluxing agent can be reduced and forced into the steel heat by an extra addition of FeSi.

28. (withdrawn) A method in connection with steel production according to claim 27, wherein the reduction step comprises addition of CaO.

29. (previously presented) A method according to claim 15, comprising adding the fluxing agent to a slag on top of a steel heat.

30. (previously presented) A method according to claim 29, comprising adding the fluxing agent to the slag in an amount that partly or totally corresponds to the requirement of CaF_2 in order to achieve a desired fluxing effect.

31-32 (canceled)

33. (previously presented) A method according to claim 15, comprising heating said hydroxide sludge to a temperature in the range 1000-1200 °C, whereby the hydroxide sludge is sintered into a mechanically stable product, and allowing the sintered hydroxide sludge to cool to ambient temperature.

34. (currently amended) A method according to claim 15, comprising heating the hydroxide sludge to a temperature above 1200 °C, whereby the hydroxide sludge melts and subsequently ~~solidifies~~ solidifies on cooling to ambient temperature.